XLVII.—*List of Fossil Mammifera from the Basin of the Rio das Velhas, with an extract of some of their distinguishing Characters.* By Dr. Lund*.

Edentata.

M. Lund describes a *Myrmecophaga* of the size of an ox (*Myrm. gigantea.*)†.

Effodientia.

Two species of *Dasypus*; one allied to *D. octocinctus*, but with the mouth shorter; and the other twice as large as the living species, with the plates of the shield deeply punctuated (*D. punctatus*).

Xenurus, Wagl. A species allied to *X. nudicaudis*, a living species established by M. Lund.

Eurodon, Lund. An extinct genus of Armadillo, characterized by the teeth being transversally compressed. M. Lund is only acquainted with a single species, of the size of a small pig.

A *Heterodon*, Lund., another lost genus of the same family, distinguished from all the living Armadillos by the proportion of its teeth: the species which served as the type was of the size of a rabbit.

A *Chlamydotherium*, Lund., a new genus of the same family. Nearly all the parts of the skeleton have been investigated by the author, and it proves to be very interesting from its establishing connexions between the various groups of existing Armadillos, and also by the affinities it presents to the *Bradypoda*.

The *Chlamydotherium* represents on a grand scale the genus *Euphractus*, Wagl. M. Lund is acquainted with two species, one dedicated to M. von Humboldt of the size of a Tapir; the other, named *giganteum*, equaled in size the largest Rhinoceros.

An *Hoplophorus*, a genus very extraordinary from the heavy proportions of its species and their gigantic size, as well as from the remarkable combination of different types of organization: their characters however bring them more and more near to the *Bradypoda*. These curious animals were provided with a shield, which covered all the upper parts of the body, and which consisted of small hexagonal plates, except towards the middle of the body, where these plates take a square form and are arranged in fixed transversal bands. The bones of the trunk as well as the large bones of the extremities are

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M. Lund thus comes to the family of the *Bradypoda*, which in these countries performed a very important part during the antediluvian epoch from the number and variety of its forms and the large size attained by the species.

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This genus appears to have been very rich in species; M. Lund already distinguishes five; one of them, *M. Cuvierii*, was of the size of a large ox, and this was not the largest species.

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The family of the *Bradypoda* have disappeared entirely from the basin of the Rio das Velhas, which would be accounted for by the absence of primæval forests, all the country being occupied by that form of vegetation termed by the Brazilians *Campos*. It is probable that at the period during which these large animals lived it was quite different, and that the country was then covered with immense forests: still, however, everything leads us to suppose that they led the same kind of life as their representatives of the present period,

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i. e. that notwithstanding their colossal dimensions they sought their food in trees.

PACHYDERMATA.

This family was more numerous at those times than at present. M. Lund mentions a species of Tapir, four species of Pecari, and moreover a Mastodon, equaling in size that of an Elephant.

RUMINANTIA.

The family of Ruminants, which is represented in this country by the sole genus *Cervus*, possessed at this ancient period, besides the genus *Cervus*, of which two fossil species are met with, an antelope and two generic types which have no representatives; they are distinguished by the names of *Auchenia** and *Leptotherium*. M. Lund is acquainted with two species of each of these genera.

FERÆ.

The Carnivora were not less numerous or varied in those times than the Ruminants. There were three species of *Felis*, two species of *Canis*, a bear, and what is most remarkable, a species belonging to the genus *Cynailurus* of Wagler, or *Guepardus* of M. Dumortier, which is peculiar to the old world, and which at that period occurred in the new world. M. Lund also notices a jackal, which will constitute a new genus under the name of *Speothos*, one species of Coati, another of the genus *Eirara*, and lastly, what will appear most surprising, a hyæna, which to his great astonishment he found with remains of Pacas, of Agoutis, of Pecari, of *Megalonyx*, and other American forms. The species which he calls *H. Neogæa* equals in size the largest living species of hyæna.

MARSUPIALIA.

The diluvian deposits of the caverns of Brazil are filled with fragments of Marsupials of the genus *Didelphys*, amongst which seven species may be distinguished, five of which bear more or less analogy to recent species of this country, while the two others exhibit not a trace of resemblance. A new genus will arrange itself by the side of *Didelphys* which appears to have been of the size of a Jaguar, and seems to represent the great species *Dasyurus* of New Holland. M. Lund assigns the name of *Thylacotherium*† to it.

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i. e. that notwithstanding their colossal dimensions they sought their food in trees.

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This family was more numerous at those times than at present. M. Lund mentions a species of Tapir, four species of Pecari, and moreover a Mastodon, equaling in size that of an Elephant.

RUMINANTIA.

The family of Ruminants, which is represented in this country by the sole genus *Cervus*, possessed at this ancient period, besides the genus *Cervus*, of which two fossil species are met with, an antelope and two generic types which have no representatives; they are distinguished by the names of *Auchenia** and *Leptotherium*. M. Lund is acquainted with two species of each of these genera.

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All the families hitherto passed in review have shown a superiority in number of species, and especially of genera, in favour of the antediluvian period. This is not the case for the two remaining families, the *Cheiroptera* and the *Simiæ*.

Cheiroptera.

With regard to the *Cheiroptera*, says M. Lund, it is but recently that I succeeded in discovering some few remains among the millions of bones of small animals contained in the deposits of some caverns. The heaps of recent bones which are frequently found in the caverns, arising as I have above observed from remains of animals dragged into them by the *Strix perlata*, contain bones of *Cheiroptera* in greater number, and it might lead one to conclude that this family was in fact less numerous in the ancient periods than it is at present. However, as several circumstances lead me to believe that it was by a diurnal bird of prey that the heap of the small fossil bones was formed, this explains, as I shall subsequently show, why the bones of animals of the family in question are more rare amongst them than in the heaps of recent bones.

Simiæ.

The existence of *Simiæ* at periods previous to the present order of things was a fact yet new to science, when I discovered in the month of July 1836, the first fossil remains of an animal of this family. Since then I have learnt that their presence has been confirmed in Europe and in Asia. I possess fossil bones of two species of this family, one of which, that will not come under any of the existing genera, attained the height of four feet (*Protopithecus brasiliensis*): the other approaches considerably to the genus *Callithrix*, exceeding it by a height of twice that of the species living at the present day (*Callithrix primævus*).

I shall conclude by observing that hitherto I have found no trace of the existence of man at this period.

This rapid glance will suffice to show that the torrid zone of our globe, far from having been uninhabited during the period preceding the now existing state of things, possessed, on the contrary, an animal creation more numerous, more varied, and more gigantic, than that which it sustains at present.

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If we combine, says M. Lund in concluding, this fact with the geological facts above alluded to; if we remember that all the country in question, elevated 2000 feet above the level of the sea, is covered with a continuous and great stratum of loose soils which extend equally and without any interruption over plains, valleys, and hills, and which is not missing even on the table lands and gentle slopes of the highest mountains (5000 to 6000 feet); if we consider that this stratum contains subjacent beds of gravel and stones which fill all the fissures and caverns of the limestone rocks, and, that lastly, it contains numerous remains of animals differing from those which at the present day inhabit this country; if, I say, we combine these facts, we can hardly refuse seeing proofs the most irrefragable of a great irruption of waters, which, covering all this portion of the globe, put an end to the beings then inhabiting it.

XLVIII.—*Enumeration of Plants collected by* Mr. Schomburgk, *British Guiana.* By George Bentham, Esq., F.L.S.

[Continued from vol. ii. p. 451.*]

LEGUMINOSÆ.

Tribe Loteæ, *DC.*

If we commence the long series of *Leguminosæ* with the *Papilionaceæ*, the tribe of *Podalyrieæ* might be placed first, removing the true *Sophoreæ* to the end, as forming the intermediate link between *Papilionaceæ* and *Cæsalpinieæ*. The vast tribe of *Loteæ* might come next, divided into sub-tribes nearly in the order proposed by DeCandolle, but with a few modifications of detail.

Sub-tribe Genisteæ, *DC.*

Monadelphous stamens, and simple or palmate leaves, are the chief characteristics of this group, and admit of few if any exceptions. The anthers are also frequently dissimilar, five being oblong and attached near the base, and five alternate ones shorter and attached towards the centre. There do not appear ever to be either stipellæ to the leaves, a vaginal disk round the ovarium, nor trans-

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